MONTANA

CHAPTER 1

PURPOSE AND NEED

CHAPTER 1: PURPOSE AND NEED

Introduction

This Draft Environmental Impact Statement (DEIS) was prepared jointly by the Bureau of Land Management (BLM) and the State of Montana (state). The Environmental Protection Agency (EPA), Bureau of Indian Affairs (BIA), Department of Energy (DOE), and Crow Tribe are designated Cooperators for the EIS. The EIS is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Montana Environmental Policy Act (MEPA) of 1971. The EIS analyzes the impacts from future exploration and development of State managed oil and gas resources statewide, with emphasis on the BLM planning area of the Billings and Powder River RMP areas, and Blaine, Gallatin, and Park counties.

BLM proposes to amend the Billings and Powder River Resource Management Plans (RMPs). The Powder River and Billings RMPs, as amended by BLM's 1994 *Oil and Gas Amendment of the Billings, Powder River, and South Dakota RMPs,* support conventional oil and gas development and limited coal bed methane (CBM) exploration and development. Current projections by industry indicate heightened interest in the exploration and development of CBM. Considering both conventional oil and gas and expanded CBM development would result in a major federal action with potential significant effects to the human environment. An EIS is needed to consider the impacts from existing management and its alternatives. An RMP Amendment is needed in order to allow BLM to change any existing land use decisions regarding oil and gas operations.

The state has placed a moratorium on state-permitted CBM wells in Montana until the EIS is completed. The EIS will be used by the state to supplement its EIS for permitting oil and gas activities, particularly large-scale CBM development.

Future oil and gas NEPA analysis by BLM or BIA or MEPA analysis by the State of Montana could tier off of this EIS. BLM's approval of potential oil and gas activities in the planning area would be consistent with the decisions and mitigation requirements developed in this amendment. Similarly, the state's rules and regulations governing CBM activities may be revised in this plan and used in tiering, so that their future decisions are consistent with the decisions made during this process. If a Native American tribe proposes to develop their CBM resource, the BIA will need to comply with NEPA for its approval actions under the Indian Mineral Development Act and other laws. The BIA could adopt this EIS, or tier off of the analysis in the EIS, to help meet its NEPA responsibilities in future proposed actions.

Conformance With the BLM Land Use Plan

The Billings RMP was approved through a Record of Decision issued by BLM September 28, 1984. The Powder River RMP was approved through a Record of Decision issued by BLM on March 15, 1985. BLM's 1994 Oil and Gas Amendment of the Billings, Powder River, and South Dakota RMPs amended both of these RMPs. The decisions made in the RMPs allow for a certain level of conventional oil and gas development on federal leases, support limited CBM exploration and development and do not include analysis for full-scale CBM development.

"The Reasonable Foreseeable Development projections can accommodate the drilling of test wells and initial small-scale development of CBM. The extension of the nonconventional fuels tax credit for wells drilled before December 31, 1993, should generate some activity in the planning area. This amendment does not contain either a hydrologic analysis of the RFD area or an environmental study of the impacts of building major pipeline systems. In order for development to occur on federal oil and gas lands, an additional environmental document tied to this amendment would be required" (BLM, 1992).

The Planning Area

The planning area shown in Map 1-1 is defined as the area where oil and gas decisions will be made by BLM and the State of Montana. The BLM's planning area is the oil and gas estate administered by the BLM in the Powder River and Billings RMP areas. The State of Montana's planning area is statewide, with emphasis on the state-administered oil and gas within the BLM planning area and in Blaine, Park, and Gallatin counties. The planning area excludes those lands administered by the Forest Service, the Crow, Northern Cheyenne and other Indian lands.

For ease of reference, the Billings and Powder River RMP areas, and Blaine, Park, and Gallatin counties,

are referred to in the document as the BLM and state "CBM emphasis area." This is the 16-county area within the BLM and state planning area where there is CBM development interest.

The Powder River RMP area encompasses the southeastern corner of Montana, including Powder River, Carter, and Treasure counties, and portions of Big Horn, Custer, and Rosebud counties. The Powder River RMP area comprises approximately 1,080,675 acres of federally managed surface and 4,103,700 acres of federal mineral estate.

The Billings RMP Area comprises the south-central portion of Montana consisting of Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone counties and the remaining portion of Big Horn County. The Billings RMP Area comprises approximately 425,336 acres of federally managed surface and 906,084 acres of federal mineral estate.

Adjacent to the planning areas, other major land holdings include the Crow, Northern Cheyenne, and Fort Belknap Indian Reservations, the Custer National Forest, the Big Horn Canyon National Recreational Area, the Burlington Northern and Santa Fe Railroad, and the Fort Keogh Agricultural Experiment Station. The total surface area of the CBM emphasis area (all owners) exceeds 25 million acres.

Purpose and Need

The BLM is responsible for managing federally owned oil and gas resources. During the October 18, 2000, meeting of the Coal Bed Methane Coordination Group, oil and gas industry representatives presented their predictions for the number of CBM wells that might be drilled within the planning area. The oil and gas analysis in current BLM planning documents did not predict as many wells. In order to analyze the effects from full-field oil and gas development, an EIS and RMP amendment is needed.

BLM's purpose for the EIS is to analyze impacts from oil and gas activity, particularly from CBM exploration, production, development, and reclamation in the Billings and Powder River RMP areas. A BLM plan amendment is needed because of the anticipated change in intensity of the development of the oil and gas resources. BLM may need to change its decisions by considering oil and gas management options including mitigation measures that will help minimize the environmental and social impacts related to oil and gas activities. The EIS will focus the analysis on the oil and gas development issues not covered in the current RMPs, such as water management from CBM production.

The State of Montana's purpose is to develop a program to address CBM exploration, development, production, reclamation, and cleanup in Montana. The EIS, in part, responds to the stipulation and settlement agreement, dated June 19, 2000, resulting from a lawsuit brought by the Northern Plains Resource Council against the MBOGC in the Montana First Judicial District Court, Lewis and Clark County.

Planning Criteria

Introduction

Planning criteria are the constraints or ground rules used by the BLM to guide and direct the development of a resource management plan. Planning criteria guide the resource specialists in the collection and use of inventory information, in analyzing the management situation, defining and analyzing the alternatives, and selecting the Preferred Alternative.

Overall Considerations

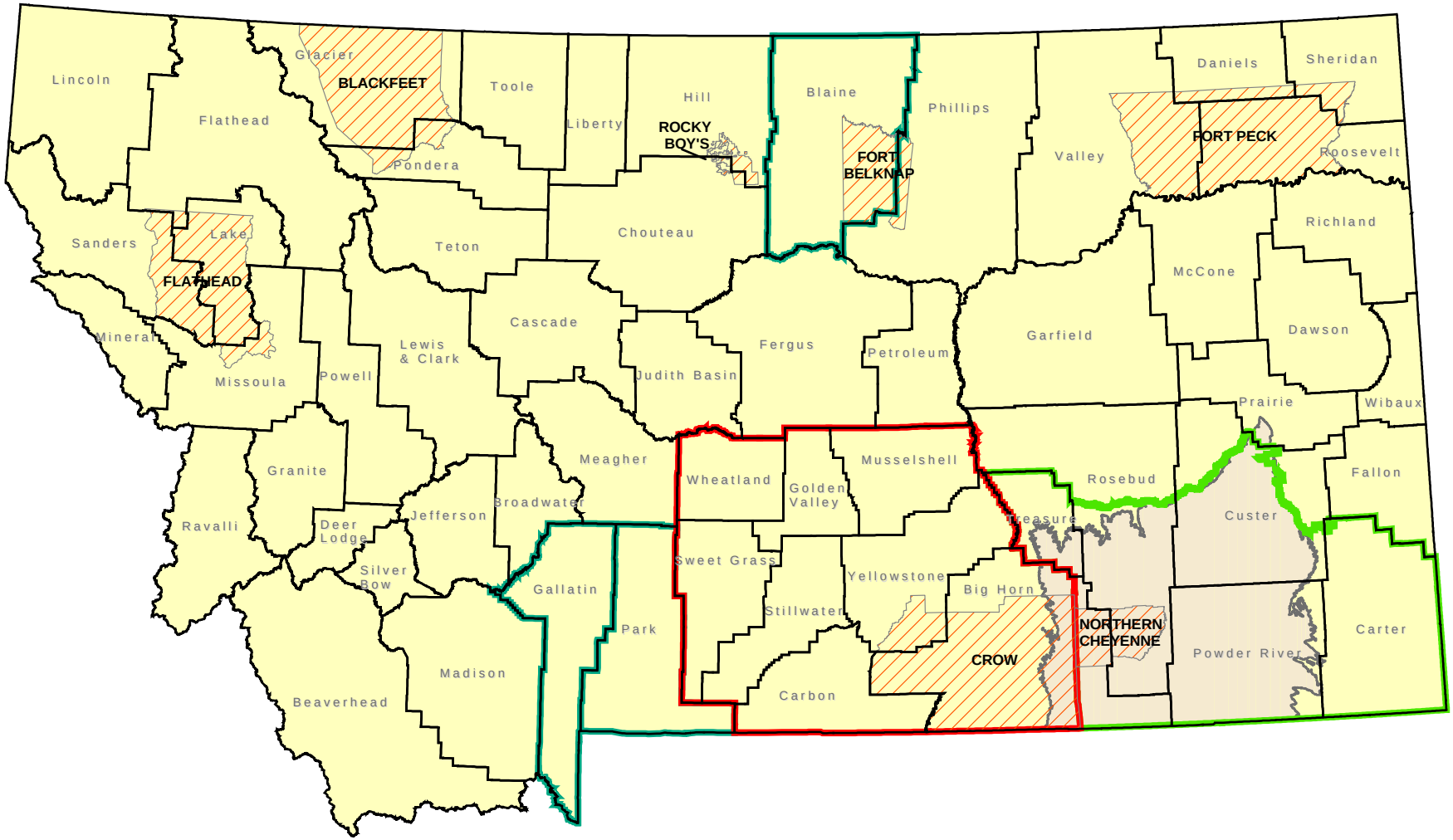
1. The EIS/RMP will stand alone, but may tier off, or incorporate by reference, other documents as previously mentioned (*Oil and Gas Final EIS and Proposed Amendment of the Billings, Powder River and South Dakota RMPs; Wyodak Coal Bed Methane Project Final EIS*; and *Board of Oil and Gas Conservation Oil and Gas Drilling and Production in Montana EIS).*

2. The planning area for BLM is the BLM-administered oil and gas estate in Wheatland, Golden Valley, Musselshell, Sweet Grass, Stillwater, Yellowstone, Carbon, Big Horn, Treasure, Powder River, and portions of Custer, Rosebud, and Carter counties. The state planning area is statewide with emphasis on the BLM planning area and three isolated areas in Blaine, Park, and Gallatin counties. The planning area excludes those lands administered by other agencies (for example, Forest Service or Indian trust acreage).

3. The analysis area is any land that may be affected, regardless of ownership.

4. Alternatives will address the identified issues and management concerns. All other guidance

Map 1-1: Planning Areas



Legend

- Billings RMP Area
- Powder River RMP Area
- Special Consideration Counties
- Native American Reservations
- Powder River Geologic Basin

N W E S

1:4,000,000

50 25 0 50 Miles

50,000 0 50,000 100,000 Meters

DATA SOURCES:

Counties: 1:100,000 scale, counties, Montana State Library/NRIS, Helena, Montana.
Reservations: 1:100,000 scale, counties, Montana State Library/NRIS, Helena, Montana.
Powder River Geologic Basin: 1:250,000 scale, USGS Professional Paper 1625a.

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will be presented in the Management Common to All Alternatives section of the Amendment/EIS.

5. The alternatives chosen will be economically and technically feasible. Those alternatives, or components of those alternatives, found not to be economically or technically feasible or viable will be dropped from or modified for consideration in the range of alternatives.

6. Any decision or mitigation measure required by the Amendment/EIS will be enforceable and will lend itself to monitoring.

7. The Record of Decision (ROD) for BLM-administered lands will be prepared in accordance with NEPA and will contain the final BLM decisions of the Amendment and EIS.

8. Data acquisition will consist primarily of extrapolation and compilation of existing data and appropriate literature search.

9. Existing geological and fluid minerals data will be used to develop occurrence potentials and foreseeable development scenarios.

10. Geographic Information Systems will be used by the state in accordance with BLM data standards.

11. Current management guidance will be expanded to reflect recent resource regulations and guidelines pertaining to oil and gas operations.

12. A list of sensitive species will be identified and addressed in the document.

13. To the extent practicable, this document will be consistent with adjoining Forest Service lands and leases.

14. Decisions will comply with Rangeland Health Standards.

Agency Responsibilities

Bureau of Land Management

Drilling oil and gas exploration and production wells on lands where mineral rights are owned and controlled by the federal government must be conducted under an approved application for permit to drill (APD) issued by the BLM. In considering whether to approve applications for permit to drill and other lease activities, the BLM must consider the possible impacts from typical exploration and development activities, and cumulative environmental effects, to ensure compliance with NEPA. This DEIS was prepared to meet those requirements.

The BLM's authority and decisions related to oil and gas development in the planning area is limited to the agency's stewardship, resource conservation, and surface protection responsibilities for federal lands and minerals. As conservator of the federal surface and mineral estate, the BLM has responsibility for ensuring that the federal mineral resource is conserved (not wasted) and is developed in a safe and environmentally sound manner.

Much of the planning area contains lands known as "split estate." These are lands where the surface ownership is different from the mineral ownership. Management of federal oil and gas on these lands is somewhat different from management on lands where both surface and mineral ownership is federal. On split estate lands where surface ownership is private, and BLM administers the minerals, the BLM places necessary restrictions and requirements on permitted activities and works in cooperation with the surface owner. The BLM has established policies for the management of federal oil and gas resources under the following statutes: Federal Land Policy and Management Act (FLPMA), NEPA, National Historic Preservation Act (NHPA), and Endangered Species Act (ESA) (see BLM 1992, under "Split Estate" for more information).

Regulatory areas where the BLM has shared responsibilities with other federal or state agencies include the following:

- Oil and gas drilling—FLPMA of 1976, 43 U.S.C. 1701 et. seq. as amended (PL 94-579), and the Mineral Leasing Act of 1920, as amended, (PL 93-153). This is a shared responsibility with the Montana Board of Oil and Gas.

- Activities that would impact waters of the U.S. from the discharge of produced waters—BLM must comply with the Clean Water Act (CWA) as provided by Section 313 of the CWA, Section 313, 33 U.S.C. 1323. NPDES permits are issued by the State of Montana for actions involving the discharge of water from point sources on non-Indian lands and are issued by EPA for such actions on Indian lands. For actions involving the discharge of water from point sources, BLM works with Montana Department of Environmental Quality (MDEQ) on private and public lands, and with the U.S. Environmental Protection Agency (EPA) on

Indian lands. BLM issues its approval after State or EPA approval has been given.

- Activities that would impact waters of the U.S. from the placement of fill materials—The U.S. Army Corps of Engineers and BLM have shared responsibility in Montana for dredge and fill permits associated with CBM activities under Section 404, General Permit No. 404. This covers activities that impact waters of the U.S. as a result of placing fill in either waters of the U.S. or jurisdictional wetlands. See 33 CFR Part 320 and 40 CFR Part 230–Section 404(b)(1) Guidelines for the Specification or Disposal Sites for Dredged and Fill Materials.

- Special status species of plants or animals—ESA, U.S.C. 1531 et seq. This is a shared responsibility with the U.S. Fish and Wildlife Service and Montana Fish, Wildlife, and Parks (MFWP).

- Cultural, historical, or paleontological resources—NHPA, 16 U.S.C. 470. This is a shared responsibility with the Montana State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation.

- Surface water diversions, stream channel modifications, construction of new reservoirs, reservoir supply, or dam modifications to existing reservoirs, except on federal surface—Montana Dam Safety Act, 85-15-207. This is a shared responsibility with the MDEQ Water Resources.

- Oil and gas well spacing—Memorandum of Understanding (MOU) between the BLM and the Montana Board of Oil and Gas Conservation (MBOGC) concerning Oil and Gas Well Spacing/Well Location Jurisdiction, and the Montana Oil and Gas Conservation Act, Statue 82-11-201, Establishment of Well Spacing Units. This is a shared responsibility with the MBOGC.

- Consultation with Tribal Governments—Under Executive Order 13175, BLM will provide a meaningful opportunity for input by tribal officials where the EIS would have tribal implications. The Executive Order reflects the federal government's trust responsibility to federally-recognized Indian tribes. Pursuant to this trust responsibility, the federal government establishes regular and meaningful consultation and collaboration with tribes on a government-to-government basis when federal activities may affect Indian tribes.

Protecting the United States Government and Indian lessors from loss of royalty as a result of conventional oil and gas drainage is a prime responsibility of the Bureau of Land Management (BLM). Under the terms of both federal and Indian leases, the lessee has the obligation to protect the leased land from drainage by drilling and producing any well(s) that is necessary to protect the lease from drainage, or in lieu thereof and with the consent of the authorized officer, by paying compensatory royalty. Drainage analysis, on the basis of a production screen or other criteria, is required by BLM's Drainage Protection Guidelines. Federal leases determined to be in danger of drainage will be subject to geologic, engineering, and economic analyses in order to define the presence and magnitude of resource drainage.

The geologic analysis is a comprehensive examination of the lithologic, structural, and stratigraphic components of the subject reservoir to determine whether drainage is geologically possible. The subject reservoir is mapped to define its limits and physical characteristics using all available data. Differences between the BLM's independent geologic analysis and the lessee's geologic analysis, if submitted, are discussed and reconciled in the final report. The report describes in detail how the geology affects drainage in the subject area.

The reservoir engineering/economic analysis is the final examination of the reservoir performance, production history, and economic determinants to determine whether drainage is occurring or has occurred and whether an economic protection well could have been drilled. The BLM would evaluate any data submitted by the lessee and resolve or explain any significant differences. The BLM analyses will determine the measures necessary to mitigate drainage of hydrocarbons ranging from a mineral owner's demand to drill a protection well to holding the lessee liable for the value of drained resource.

Exploration and production wastes include produced water, oilfield production fluids (including drilling muds and fracture fluid flowback), crude oil and condensate, and contaminated soils. Produced water, drilling muds, and fracture fluids are generally authorized for disposal by underground injection in Class II Underground Injection Control (UIC) wells under regulations of the MBOGC, and of the EPA on tribal lands. Small, uneconomical quantities of crude oil and/or condensate, when wasted, are typically collected and sold to a waste oil recycler. Soils contaminated with exploration and production wastes can be disposed in a Subtitle D (nonhazardous)

landfill, or may be treated onsite with the approval of the appropriate regulatory authority and surface lessee. Drilling mud is exempt from both the Hazardous Waste Program (ARM 16.44.304(2)(c), and the Montana Hazardous Waste Act. Drilling mud that contains less than 15,000 total dissolved solids (TDS) can be disposed of onsite with the landowner's permission.

State of Montana

State agencies that have authority over oil and gas activities include the DNRC and MDEQ. The DNRC has two divisions involved in oil and gas development. These divisions are the Oil and Gas Conservation Division—also known as the MBOGC, and the Trust Land Management Division (TLMD). The MBOGC is the lead agency for regulating oil and gas development in Montana. The Board's responsibilities include issuing drilling permits; classifying wells; establishing well spacing units and land pooling orders; inspecting drilling, production, and seismic operations; investigating complaints; conducting engineering studies; and collecting and maintaining well data and production information. It also administers the federal Underground Injection Control Program for Class II injection or disposal wells in Montana to protect underground sources of drinking water.

Additional regulatory areas where the State of Montana has responsibility are managed by state agencies that have jurisdiction over some aspects of the oil and gas drilling and production. These agencies are the DNRC and MDEQ. The MFWP and the SHPO serve in advisory roles for they have no regulatory authority. Each of these agency's roles and responsibilities are discussed below.

Department of Natural Resources and Conservation

As a result of the 1995 legislative Natural Resource Agency reorganization, the "new" DNRC was formed. It combined the majority of programs from the old Departments of State Lands and Natural Resources and Conservation. Programs of the reorganized DNRC include: the MBOGC, TLMD, Reserved Water Rights Compact Commission, Forestry Division, Conservation and Resource Development Division, and Water Resources Division.

The DNRC is responsible for sustaining and improving the benefits derived from water, soil, and rangeland; managing the State of Montana's trust land resources; protecting Montana's natural resources through regulation and partnerships with federal, state, and local agencies; promoting conservation of oil and gas and preventing their waste through the regulation of exploration and production; and managing and assisting in the management of several grant and loan programs. Sections addressing the responsibilities of the MBOGC, TLMD, and Water Resources Division as they pertain to oil and gas development follow this discussion.

Montana Board of Oil and Gas Conservation

The MBOGC was established in 1953 with the passage of the Montana Oil and Gas Conservation Act (82-11-101, et seq., Montana Code Annotated [MCA]). Under Montana law, no oil or gas exploration, development, production, or disposal well may be drilled until MBOGC issues a drilling permit. This requirement applies to all private, state, and most federal lands, but excludes proposals on allotted or tribal minerals. In November 1987, MBOGC and the BLM signed a cooperative agreement to coordinate their decisions regarding permits to drill. Under this agreement, MBOGC accepts for the record all permits to drill for federal oil and gas minerals in Montana.

The powers and duties of MBOGC in regulating oil and gas activities are defined in 82-11-111, MCA. MBOGC is charged with determining whether a waste of resources is existing or imminent. Based on their determination, MBOGC can take measures to prevent contamination of or damage to surrounding land and underground strata caused by drilling operations and production. These measures include, but are not limited to, regulating the disposal of produced salt water and the disposal of oil field wastes. The MBOGC regulations are located in Title 36, Chapter 22, of the *Administrative Rules of Montana* (ARM).

In 1989, the MBOGC prepared a programmatic EIS to assist in determining how to incorporate any necessary environmental review into its rules and permitting process in an effort to come into compliance with MEPA. The programmatic EIS under MEPA presented various alternatives for addressing environmental reviews during the permitting process. From these alternatives, MBOGC has adopted an environmental review process for permitting wells.

In conducting environmental reviews for new permits, MBOGC works with other state agencies that may become involved in the process. This EIS

was prepared to assist in the review process and to meet the requirements of MEPA and NEPA for CBM development.

The MBOGC is the lead state agency for regulating oil and gas development in Montana. It is a quasi-judicial body that is attached to the DNRC for administrative purposes. The law is quite specific regarding some of the MBGOC's makeup:

> *The board consists of seven members, three of whom shall be from the oil & gas industry and have had at least 3 years experience in the production of oil and gas, and two of whom shall be landowners residing in oil- or gas-producing counties of the state but not actively associated with the oil & gas industry, but one of the two landowners shall be one who owns the mineral rights with the surface and the other shall be one who does not own the mineral rights. (MCA Section 2-15-3303)*

Additionally, one must be an attorney. All members are appointed to 4-year terms by the governor—four members (the majority) when he or she takes office; the others, 2 years later.

MBOGC's regulatory action serves three primary purposes: (1) to prevent waste of oil and gas resources, (2) to conserve oil and gas by encouraging maximum efficient recovery of the resource, and (3) to protect the correlative rights of the mineral owners, that is, the right of each owner to recover its fair share of the oil and gas underlying its lands. MBOGC also seeks to prevent oil and gas operations from harming nearby land or underground resources. Since 1993, MBOGC has performed the certification required for companies to receive tax incentives available for horizontal wells and enhanced recovery projects.

Trust Land Management Division

The TLMD is responsible for managing the surface and mineral resources of forest, grazing, agricultural, and other classified state trust lands to produce revenue for the benefit of Montana's public schools and other endowed institutions. The TLMD manages more than 5.1 million acres of surface acreage and in excess of 6.3 million acres of mineral acreage.

The TLMD is divided into four bureaus: the Minerals Management Bureau, Agriculture and Grazing Management Bureau, Forest Management Bureau, and Special Uses Management Bureau.

The TLMD administers mineral leases on its school trust land mineral estate and, as a courtesy, other state agency's mineral estate. Leasing procedures will not change because of management alternatives. It should be noted that the TLMD is responsible for management of surface and mineral acreage, while some other agencies perform in more of a regulatory role. The TLMD must comply with MEPA. MEPA is required for state proposed actions. The process is implemented both at the leasing stage and for proposed plans of operation. For plans of operation, it is conducted by the area offices. Information, management restrictions, and environmental documents are then forwarded to the Minerals Management Bureau for approval. The Minerals Management Bureau then notifies operators of their decision to approve or disapprove.

Water Resources Division

The Water Resources Division is responsible for various programs coupled with the development, uses, and protection of Montana's water. It oversees the state-owned water resource projects, water rights, and water reservoirs. Its activities include centralized water rights record keeping, state water planning, floodplain management, dam safety, drought planning, and interstate coordination of water issues. The division provides administrative support to the Board of Water Well Contractors, a board that licenses well drillers and establishes minimum well construction standards.

Through the state water planning process, the division also guides the development of the state water plan and statewide water policies and laws. The state water plan is a progressive, collaborative, and citizen-based process for improving the management of the state's water resources. Other responsibilities include staffing the Drought Advisory Committee and coordinating drought responses; assisting in the planning and developing of water storage projects; analyzing the effects of proposed new water uses on existing water rights; protecting Montana's water from interstate, regional, and international threats; responding to federal laws and actions that potentially affect Montana's water; and providing water resource education to Montanans through the Montana Watercourse.

The division recently helped draft the *Powder River Basin Controlled Groundwater Area Final Order* that was signed by the DNRC director on December 15, 1999. A copy of the order is contained in Appendix A of the Water Resources Technical Report (ALL 2001b) prepared for this EIS. The order is intended to protect existing water users from impacts of CBM

development. The order recommends monitoring and reporting standards, establishes a Technical Advisory Committee, and calls for the implementation of mitigation agreements between surface owners and CBM operators. The Technical Advisory Committee makes recommendations to the MBOGC regarding specific site monitoring and reporting requirements. The MBOGC has enforcement authority over monitoring and reporting requirements for continuing CBM operations as established in the Boards' Order 99-99, *Establishing CBM Operating Standards*.

Montana Department of Environmental Quality

MDEQ administers MEPA along with Montana's Hazardous Waste Management Act, Clean Air Act, the Solid Waste Management Act, Water Quality Act, Water Quality Discharge Permits, Major Facility Siting Act, and the Montana Pollutant Discharge Elimination System. MDEQ is responsible for investigating the environmental impacts associated with continued oil and gas activities in accordance with MEPA and the EIS process.

MDEQ has delegated responsibility under the Federal Clean Water Act (P.L. 92-500) and Montana Water Quality Act (75-5-101, et seq.) to monitor and assess the quality of Montana surface waters for toxic and conventional pollutants, to prepare plans to control pollution, to assess water quality conditions and trends, to report them to the EPA and Congress, and to identify impaired or threatened stream segments and lakes. Furthermore the state must provide a program for the prevention, abatement, and control of water pollution. Recent amendments to the Montana Water Quality Act (MCA 75-5-702, effective May 1997) require the Department to consider all currently available data when making water quality assessments, including information or data obtained from federal, state, and local agencies, private entities, or individuals with an interest in water quality protection.

MDEQ also has delegated responsibilities under the Federal Clean Air Act (42 U.S.C. 7401, et seq.) that requires the state to operate an approved ambient air quality monitoring network for the purpose of evaluating compliance with the National Ambient Air Quality Standards (NAAQS), to report air quality monitoring information to the EPA, and to prepare plans for controlling air pollution. Additionally, the state is required under the Clean Air Act of Montana (75-2-101, et seq.) to provide a coordinated statewide program of air pollution prevention, abatement and control. When actual locations and operational requirements for gas compression facilities (CBM development) are determined, permit applications would be submitted to MDEQ. At that time, additional site-specific, air quality analyses, such as the Best Available Control Technology (BACT) analysis or Prevention of Significant Deterioration (PSD) increment analysis, may be performed.

MDEQ has two divisions directly or indirectly involved with oil and gas development: Permitting and Compliance; and Planning, Prevention, and Assistance. The following are brief descriptions of the role of each division:

- The Permitting and Compliance Division is in charge of permit issuance and compliance monitoring for projects relating to air; water; public water supplies; solid and hazardous waste; subdivisions; motor vehicle recycling; open cut, hard rock, and coal and uranium mines; and applicable facilities under the Major Facility Siting Act. Nearly all permits and authorizations issued by MDEQ are handled through this division.

- The Planning, Prevention, and Assistance Division is involved with planning, policy, and standards development relating to air quality State Implementation Plans, water quality, non-point source management, groundwater protection, and solid waste management.

Montana Fish, Wildlife and Parks

MFWP is responsible for the conservation and management of the fish, wildlife, parks, and recreational resources of Montana. This department advises other agencies of wildlife concerns.

State Historic Preservation Office

Under the National Historic Preservation Act of 1966, states were given certain responsibilities. These responsibilities have been assigned to the SHPO, which is a program within the Montana Historical Society. The SHPO provides assistance in the following areas: the National Register of Historic Places; historic building maintenance and rehabilitation; archaeological sites and research; tax incentives for preservation; community surveys; the PLACES program (Peoples, Lands, and Cultural Environments); National Register Signs; local government and grant assistance; preservation education; and state and federal agency responsibilities. The SHPO provides information regarding the procedures that state and federal agencies must follow to consider historic and

archaeological resources in their activities and programs.

Other Federal Agencies

Environmental Protection Agency

Under Section 402 of the Clean Water Act (CWA), 33 U.S.C. Section 1342, and 40 CFR Parts 122-125, EPA has authorized the states of Montana and Wyoming to issue National Pollutant Discharge Elimination System (NPDES) permits for discharges of pollutants from point sources into waters of the United States located in Montana and Wyoming, excluding Indian country as defined at 18 U.S.C. 1151. EPA retains an oversight and partnership role in state NPDES programs. As described in 40 CFR Part 123, Subpart C, EPA reviews proposed state NPDES permits for compliance with CWA requirements. For discharges in Indian country (a term that is defined in 40 CFR Section 122), EPA has direct implementation authority for issuing NPDES permits. Under Section 402 of the CWA, EPA is preparing a technical and economic analysis to assess disposal options for water that is produced as part of the CBM extraction process. The analysis will support the determination of effluent limitations that represent Best Available Technology Economically Achievable (BACT) for CBM produced waters. The following sections of the CWA also apply:

- **CWA Section 401, 33 U.S.C. Section 1341, and 40 CFR Part 121.** These provisions describe EPA's role in addressing certain discharges in one state that may affect the quality of water within any other state. The Northern Cheyenne Tribe has obtained "treatment as a state" designation under Section 518 of the CWA.

- **CWA Section 518, 33 U.S.C. Section 1377, and 40 CFR Part 131.8.** In June of 1999, the Crow Tribe submitted a draft application to EPA to administer a water quality standards program. The Northern Cheyenne Tribe submitted a draft application to EPA to administer water quality standards in January of 2001 and anticipates submitting a final application to EPA later this year.

- **CWA Section 303(d), 33 U.S.C. Section 1313(d) and 40 CFR Part 130.** These provisions require states to identify waters that need Total Maximum Daily Loads (TMDLs) standards and to establish TMDLs for them, with an oversight and partnership role for EPA. Currently, EPA and the State of Montana are subject to a court order that prohibits NPDES permits for new or increased discharges into any water body that has been listed as needing any TMDLs standards until all necessary TMDLs standards are established for a particular water quality limited segment (U.S. District Court 2000). The Tongue River, the Powder River and the Little Powder River have been included on the list of streams that need TMDLs and that are covered by the court's order.

The Safe Drinking Water Act (SDWA) also applies to this EIS; specifically, 42 U.S.C. Section 300f, et seq., particularly 42 U.S.C. Sections 1421 et. seq., and 40 CFR Parts 144-147 regarding underground injection control (UIC). Should produced water from CBM operations be injected into the ground, UIC permits may be necessary. EPA and the states administer UIC programs to protect underground sources of drinking water. EPA administers the programs for Class V UIC wells in the State of Montana and for all classes of UIC wells on Indian country lands in Montana and Wyoming. EPA has approved Wyoming's program for administering the UIC program for all five classes of UIC wells and Montana's program for administering the UIC program for Class II wells, and EPA retains an oversight and partnership role with these states for these programs. EPA's approvals of the states' authorities to administer these programs do not extend to Indian country.

EPA also administers Section 309 of the Clean Air Act, 42 U.S.C. Section 7609. This provision calls for EPA review and comment on the environmental impact of major federal actions to which the NEPA, 42 U.S.C. Section 4332(2)(C), applies.

Bureau of Indian Affairs

BIA is responsible for the approval of any lease, agreement, permit or document that could encumber lands and minerals owned by either tribes or allottees. Title to these resources is held by the U.S. Government in trust. As such, agreements or arrangements, involving the trust assets, that tribes or allottees make are not binding until they have been approved by the trustee. The agency that has been authorized to act as the trustee to keep the resources from being harmed or alienated is the BIA.

Within the Crow Reservation, there are approximately 1,497,000 acres of trust land out of the 2,282,000 total acres within the boundary. The Northern Cheyenne Reservation is composed of 444,000 acres within the external boundary. Of that amount, 442,000 acres are held in trust. (Land Titles

and Records Office, BIA, Rocky Mountain Regional Office, 1994).

The BIA intends to adopt the EIS for future decisions the BIA may have to make associated with hydrocarbon exploration and production (with an emphasis on CBM on trust acreage or involving trust minerals. Such decisions relate to approval of leases, agreements, easements and/or rights of way associated with exploration and production. There will be a reliance, by the BIA, on the reasonably foreseeable development estimates and cumulative impact analysis anticipated for the region. The science and analysis components of the document may be incorporated in future BIA NEPA compliance documents.

U.S. Department of Energy

Fossil Energy

The Office of Fossil Energy is charged with enhancing the United States' economic and energy security through the following actions:

- Managing and performing energy-related research that promotes the efficient and environmentally sound production and use of fossil fuels.
- Partnering with industry and others to advance clean and efficient fossil energy technologies toward commercialization.
- Managing the Strategic Petroleum Reserve to reduce vulnerability to economic, national security, and foreign policy consequences of supply interruptions.
- Supporting the development of information and policy options that benefit the public by ensuring access to adequate supplies of affordable and clean energy.

Office of Fossil Energy—Oil and Gas Program

The primary mission is to assure that fossil energy resources can meet increasing demand for affordable energy without compromising the quality of life for future generations. This program has been at the forefront of research to advance fossil energy exploration, supply, and end-use technologies.

The Oil and Gas programs include the following:

- **Natural Gas Technologies.** Pursuing advances in exploration and production, infrastructure reliability, and technologies including fuel cells and gas turbines systems.
- **Oil Technology.** Enhancing the efficiency of oil exploration, recovery, and processing while improving environmental quality.
- **Gas Energy Systems Dynamics.** Activities will lead to the development of the next generation of gas turbines, fuel cells, coupled turbine-fuel cell systems, and reciprocating engines, and lay the foundation for new gas utilization technologies.
- **Ultra Clean Fuels.** Developing enabling science for the production of ultra-clean and affordable fuels from fossil resources for high-efficiency transportation systems.

Issues

This section presents planning issues identified through the public scoping process and the BLM and state planning activities. The issues raised were in relation to CBM development. These issues are addressed in the analysis of impacts in Chapter 4.

Air Quality and Climate

- Reduction in visibility occurring to the Northern Cheyenne Indian Reservation Class I airshed from emissions
- Air quality impacts from oil and gas related activities
- Dust and emissions associated with road and drill pad construction, drilling operations, production, and compression
- Creation or release of harmful gases (hydrogen sulfide) and venting
- Consistency with the air quality model currently being developed for the Powder River EIS through the BLM Buffalo Field Office, Wyoming
- Release of greenhouse gases and effect on global warming
- Changes in ambient air quality and how this relates to objectives for minimizing regional haze based on the "Regional Haze Rule"

- Changes in climate associated with CBM development

Cultural Resources

- Avoidance of direct and indirect disturbances to archaeological sites may precipitate the development of targeted area-wide mitigation strategies in the planning stages of field development
- Impacts on the qualities of a cultural resource site affecting its eligibility for the National Register of Historical Places
- Increased access for oil and gas exploration and development may result in inadvertent, indirect, and cumulative effects to cultural resources
- Identification of specific districts or localities in which oil and gas development may be incompatible with existing cultural values
- Identification of areas of critical environmental concern

Geology and Minerals

- Re-establish hydrologic balance and functionality after CBM development so adjacent or nearby coal companies can recover their bonds and determine effects on aquifer reconstruction in coal mine areas
- Discharge of CBM produced waters could affect new coal mines if entering the mine permit boundaries
- Effects on oil and gas development from other resource protection measures
- Loss of methane resource because of venting from coal mines
- Drainage of methane from federal minerals from offsetting state and private wells
- Quantity of methane recovered
- Effect of over-pumping CBM water on gas recovery
- Subsurface coal fires
- Potential loss of coal production from CBM development

Hazardous Materials and Waste Management

- Use of hazardous materials and potential for misuse as a part of CBM development

Hydrology

Groundwater

- Produced water quality and appropriate beneficial reuses
- Drawdown of aquifers and drying up of natural springs from CBM production
- Appropriate water management alternatives
- Water quality impacts
- Water right conflicts
- Changes in pumping rate and cumulative drawdown from CBM development
- Impacts on down- and up-gradient water resources in both confined and unconfined aquifers
- Long-term effects of CBM pumping on aquifer recharge and groundwater resources
- Effects on DNRC established Powder River Basin Controlled Groundwater Area
- Shallow (Class V) and deep (Class II) injection of produced water opportunities

Surface Water

- Effect of high SAR and increased flow rates on eroding stream channels
- Impacts on water quality from produced water
- Impacts on biota from water quality changes
- MPDES discharge analysis for CBM produced waters
- Cumulative impacts to water quality and quantity
- Impacts to irrigated cropland

Indian Trust Resources and Native American Concerns

- Unique Native American concerns and social impact on Native Americans
- The effects of discharged water on agriculture, fishing, hunting, and gathering of native and sacred plants as they relate to traditional values held by the tribes
- Protection of Indian trust assets with regard to resource drainage and reduction of usable assets
- Water quality preservation agreement with the Northern Cheyenne
- Effects to reservation Class I area classification and nonattainment area
- Impacts on sites with traditional cultural importance to Native Americans in areas on and adjoining the reservations
- Increased use of public facilities and services on reservations
- Cultural and socio-economic impacts to tribal members associated with CBM development

Lands and Realty

- Construction effects from drilling, roads, and pipelines
- Infrastructure needed to accommodate CBM development would require numerous road, powerline, and pipeline rights-of-way

Livestock Grazing

- Impacts on grazing lands from discharge of high salinity water
- Effects on livestock and ranching operations from the increased availability of water
- Displacement of grazing lands from the development of CBM well pads and loss of natural forage
- Change in vegetative communities to more salt-tolerant species that are generally not preferred by livestock

Paleontological Resources

- Impacts from vandalism and amateur fossil collectors as a result of increased access to remote areas
- Impacts to paleontological localities from oil and gas development

Recreation

- Effects on hiking, hunting, and other recreational activities from CBM development
- Displacement and disturbance of wildlife and habitat will affect hunting, hiking, and other recreational activities

Social and Economic Values

- Increased levels of background noise and what noise mitigation would be conducted
- Impacts on social service agencies and local economics from increased population
- Decreased land values
- Real estate price escalate
- Agricultural job loss
- Economic effect on local communities, including potential increased wage income, lower unemployment, increased local business, and potential costs of a “boom and bust” scenario
- Cost to residents from potential CBM production affect to springs, livestock watering, and domestic water
- Social structure impacts through direct impacts to the local economy
- Revenue associated with the amount of methane recovered
- Tax revenue to local, state, and federal entities
- Effects on local economies and lifestyle from royalties to the state and federal government
- Royalties to local landowners who own mineral rights and surface disturbance payments to landowners who do not own mineral rights
- Benefits from more abundant clean energy

- Effect from Wyoming CBM development (cumulative)
- Economics of mitigation strategies
- Socioeconomic effect from lowering the water table
- Quantity of economical oil and gas resources and market implications
- Effect to agricultural productivity from sodium adsorption ratio (SAR) values
- Effects to agriculture from air, soil, and water contamination
- Private surface owner notification prior to work
- Mechanism needed for land owner input on drilling, and leasing and mineral estate issues

Environmental Justice

- Make distributive justice analysis part of the public comment and decision process
- Northern Cheyenne Tribal Governments' reliance on operator lease fees from tribal ranchers and irrigators operating on private and reservation lands

Soils

- High sodium effects: dispersion of soil colloids; reduced water infiltration; vegetative composition and population changes; mud pits, bogs; change in crop production yields; and changes in crops grown because of salinity tolerance levels
- Effects on soils from surface discharge flow changes: erosion on stream banks, and erosion in ephemeral drainages if these are the discharge points (increased erosion where dispersion occurs)
- Effects on irrigated soils: changes salt content in soil profile; changes in salt composition; saline seeps downgradient from irrigated soils; dispersion of soil colloids (reduction of soil permeability and increased erosion); and changes to micro-organism populations and composition
- Development effects: disturbance during drilling at pads (exposure to wind and water erosion); and road development (loss of soil to develop road beds, and packing soil in undeveloped roads, leading to wind erosion)
- Effects on irrigation and crop management practices: addition of additional water for leaching fraction; potential for water logging soils; modification of irrigation systems; change in cropping equipment; and effects on crops
- Effects from land subsidence and disturbance

Vegetation

- Effect of surface discharge of high sodium or SAR water on native vegetation species that are salt intolerant, as well as on streamside vegetation
- Change in vegetative communities to more salt-tolerant species
- Loss of surface vegetation from construction
- Invasion of exotic and noxious plant species in disturbed areas
- Loss of plant productivity from development
- Protection of grasslands within the Powder River Basin
- Agricultural land withdrawal for CBM production

Special Status Species

- Mitigation measures or avoidance needed to manage and protect candidate and sensitive species
- Loss of threatened and endangered species from development

Visual Resource Management

- Visual degradation from construction of production facilities, roads, powerlines, and pipelines
- Visual pollution

Wilderness Study Areas

- Effects on wilderness study areas from CBM exploration and development

Wildlife

- Impacts from infrastructure development and increased human disturbance on wildlife habitat availability, quality and integrity, escape habitat, and management plans of MFWP
- Fragmentation of wildlife habitat
- Effects from water availability, quality, and quantity
- Loss of animals because of the addition of hazards to the habitat, such as vehicles, equipment, and increased human access
- Effects on major waterways, such as the Tongue and Powder rivers, and to aquatic ecosystems, including fisheries
- Effect on migration patterns
- Change in vegetative communities to species that are generally not preferred by wildlife
- Effects from increased noise levels
- Effects from powerlines